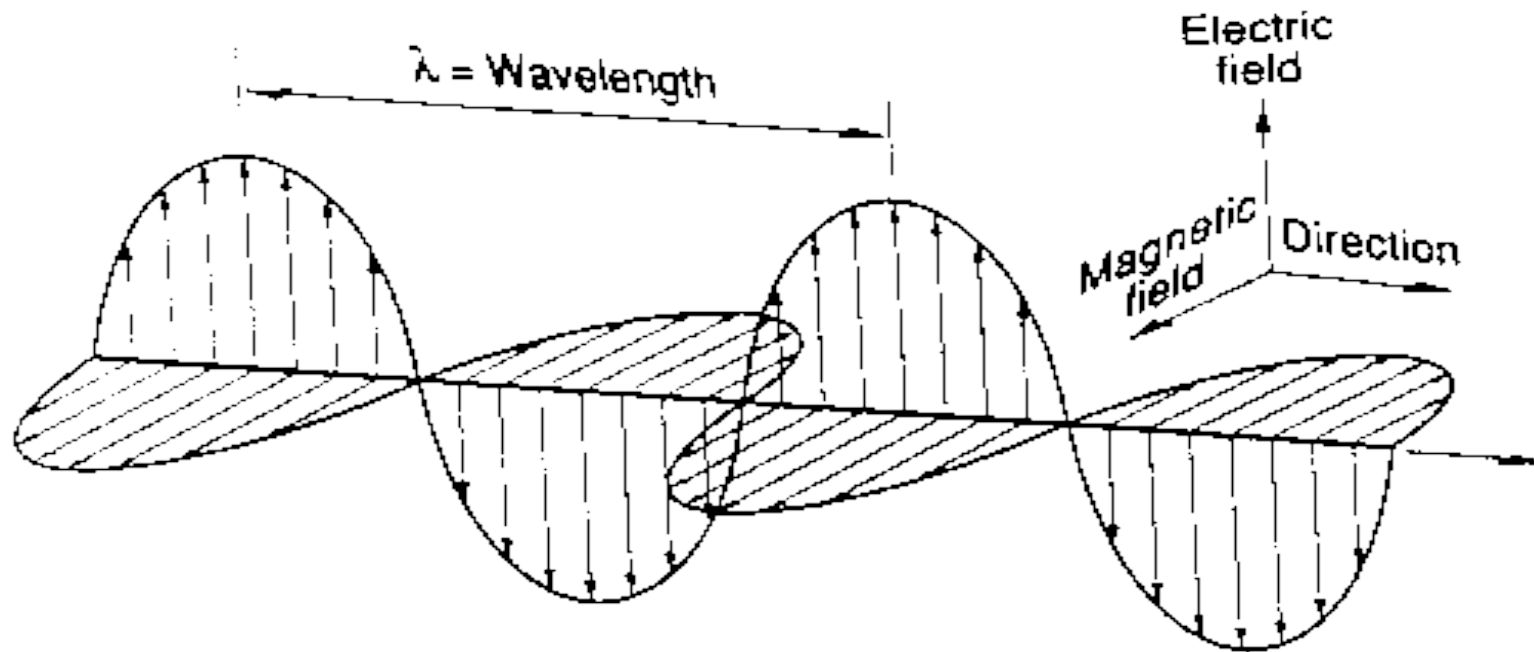


Chapter 14: Light and Color

- Electromagnetic wave -A wave emitted by vibrating electrical charges (often electrons) and composed of vibrating electric and magnetic fields that regenerate one another

Characteristics of E-M waves

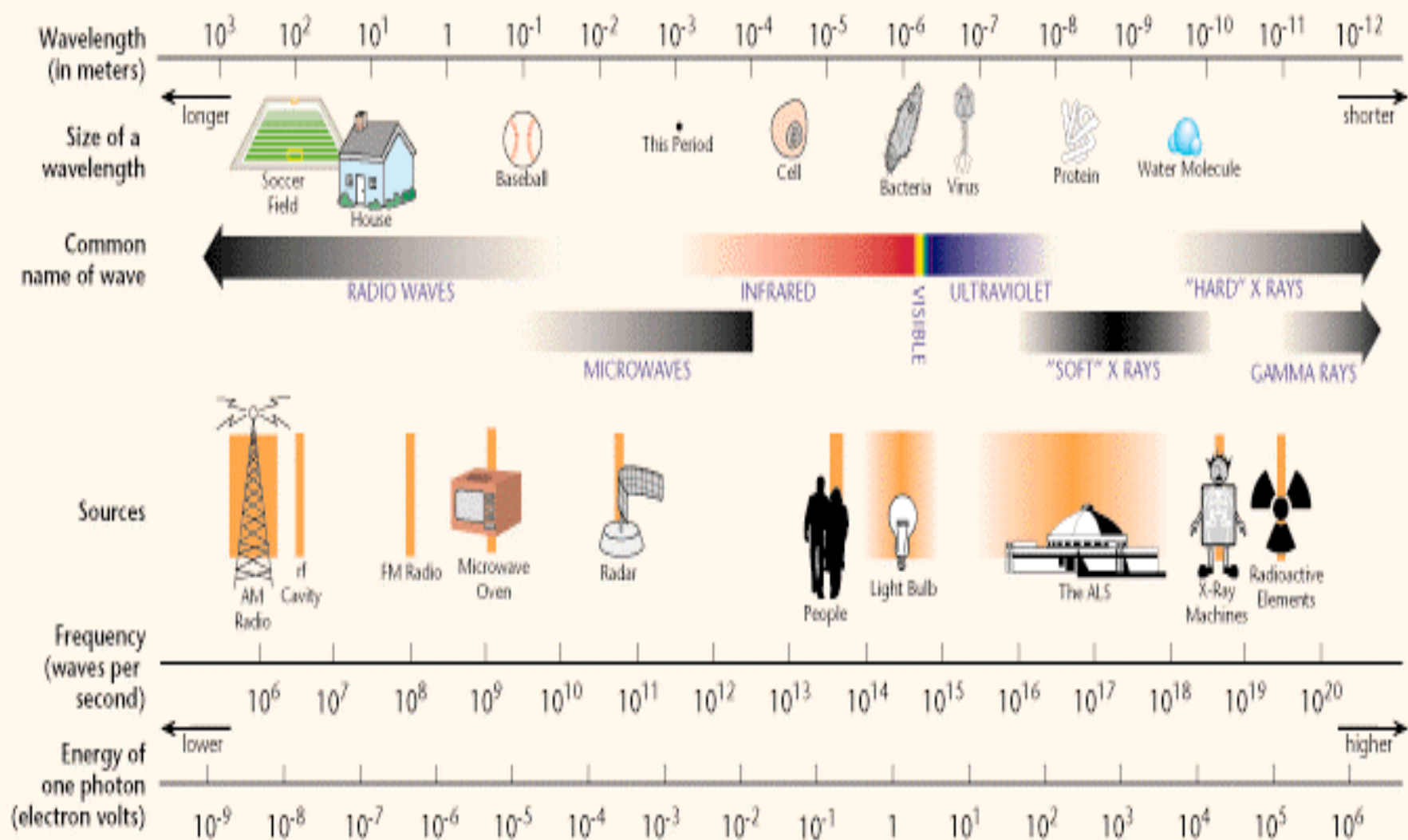
- E-M waves aka E-M radiation, travel as transverse, non-mechanical waves that have a magnetic field that vibrates perpendicular to an electric field.






More E-M wave characteristics

- They can travel through empty space
- They travel in little bundles of energy that have no mass called “photons”
- They all travel at “c,” the speed of light in a vacuum
- $C = 300,000 \text{ km/hr} = 3.0 \times 10^8 \text{ m/s}$
- There are different types of E-M radiation that lie on the the Electromagnetic Spectrum and behave in different ways

THE ELECTROMAGNETIC SPECTRUM



Electromagnetic Spectrum

- Increasing frequency 
- Increasing energy 
- Decreasing wavelength 

Radio Waves	Microwaves	Infrared waves	Visible Light	UV Light	X-rays	Gamma Rays

Fill out the chart

- Go to the website using internet “safari”:
<http://science.hq.nasa.gov/kids/imagers/ems/waves3.html>
- Scroll to the bottom to investigate the different types of radiation and fill out the worksheet